

Mission Success Bulletin

October 24, 2006

on-line

<http://www.lockheedmartin.com/michoud/>

Productivity teams strive to close the gap

Several months ago NASA and Lockheed Martin formed five productivity teams to accelerate External Tank production so that delivery dates would support the Space Shuttle manifest.

The teams report weekly to the Productivity Steering Committee led by Lockheed Martin Deputy ET Project Manager **Mark Bryant** and NASA Project Engineer **Jeff Irby** and include the following activities:

- Cell A Processes in the Vertical Assembly Building
- Primer Processes
- Acceptance Criteria
- Process Control
- Manufacturing Planning

Meeting the manifest becomes more of a challenge next year, Bryant explains, when the final modification tank (ET-126) is delivered and the in-line tanks begin processing again through Cell A, Final Assembly and Building 420.

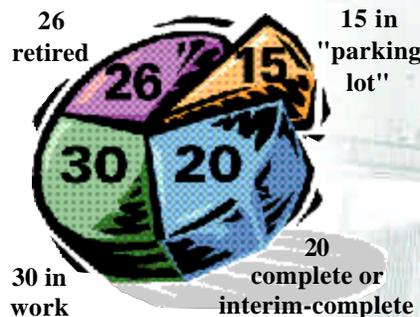
“When a mod tank leaves Cell A, it only has about three months of work left before being delivered to NASA,” Bryant says. “But an in-line tank, when it exits Cell A, it has about five months of work remaining – adding feedlines, pressurization lines, cable trays, Ice Frost Ramps, installing the aft Orbiter interface hardware – all work that we don't have to perform on the mod tanks. That significantly impacts the schedule.”

In order to improve productivity, the five teams began brainstorming ideas last summer. Team members assessed each

proposal in two ways – ease or difficulty of implementation and potential benefit to the flight manifest.

Altogether, the teams identified 91 items, with 26 retired because the potential benefits did not justify the resource expenditure, the items were not technically feasible or the benefit could be achieved by other methods.

Disposition of Productivity initiatives



“I want to stress that we haven't created any new evaluation or implementation approval pathways for productivity initiatives,” Bryant added. “If an initiative needs to go before the Technical Subcommittee or Change Board or the Chief Engineer Review Board, it goes. We are trying to move quickly, but we are not compromising technical rigor.”

The productivity teams are working hard to improve ET delivery support to the shuttle manifest “to where we can at least minimally support the manifest, then

Continued on Page 2

ET-123 mates with boosters



The ET/Solid Rocket Booster mate began October 12 in the Vehicle Assembly Building at Kennedy Space Center. Next comes the Orbital mate with Discovery on November 1 with a launch date scheduled for no earlier than December 7 for STS-116's mission to continue building the space station.

Productivity

Continued from Page 1

hopefully go beyond that and build some contingency time into our schedules for the first time in a long time,” Bryant says.

For instance, the Cell A team is looking at increasing the size of the injection and spray windows in order to spray a larger area at one time. Also, the team has implemented, via the Non-Conformance Document process, a substantial reduction in the number of

Intertank Stringer point fills required on the tank. The team is working to totally eliminate Stringer point fills on the in-line tanks.

Meanwhile, the Primer team is addressing initiatives that could shorten or avoid the 16-hour cure time for touch-ups. Another team has implemented the installation of the connector on the bellows heater harness in the backshop and not out on the floor when critical path production is under way inside the Intertank.

“We’re still all about delivering quality hardware, but delivering quality hardware in support of the manifest,” Bryant stresses.

And he doesn't want to negate other productivity work going on around the factory such as Kaizen events and similar projects.

“If you've got a productivity item, go do it. You don't have to go through the Productivity Steering Committee. Do follow all the applicable procedures, but go do it. People need to be empowered.” ■

SIRIUS-4 satellite shipped from Stennis MS & TC

Michoud Operations' newest employees at the Lockheed Martin Mississippi Space & Technology Center at Stennis recently shipped the SIRIUS-4 satellite core to our counterparts in Sunnyvale, Calif.

According to Site Director **Laryssa Densmore**, the Stennis team welded and installed the propulsion system, installed propulsion harnesses and the heating system, built and installed the thermal blankets, and performed high pressure testing and electrical check-outs of the system as part of the core's build-up phase.

This was the first core assembly built and completed using the new SAP corporate paperless planning system. In Sunnyvale, Lockheed Martin technicians will complete final assembly, integration and test, and solar array installation on the direct broadcast satellite prior to shipping it to Baikonur, Kazakhstan. There, the satellite will launch on a Proton Breeze M rocket in the 2nd quarter of 2007.

“This marks a tremendous milestone for our team here at Stennis and is one of four deliveries planned by the end of this year,” stated Densmore.

SES SIRIUS is a leading satellite system that offers cost-effective solutions for television and radio broadcasts and broadband services in the Nordic and Baltic regions and in Central and Eastern Europe. The geostationary satellites offer reliable connections throughout Europe with an average service life of 15 years.

The mission of SIRIUS 4 will be to provide replacement capacity for two existing satellites in the Nordic and Baltic markets as well as to enhance coverage in

Eastern Europe and Russia.

SIRIUS 4 will also provide interactive applications in Scandinavia

and the Baltic States and complement existing or future sub-Saharan African coverage. ■



Michoud employees at Stennis vertically position the SIRIUS-4 satellite for lowering into its shipping container at the Mississippi Space & Technology Center.

Corporation displays Katrina Banner of Thanks



Lockheed Martin Corporation
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Robert J. Stevens
Chairman, President and Chief Executive Officer

October 12, 2006

Mr. Emmanuel N. Zulueta
Vice President & Site Executive
Michoud Operations
13800 Old Gentilly Road
New Orleans, LA 70129

Dear Manny:

I am very pleased to share with you and the wonderful people at Michoud Operations the enclosed photograph, which was taken at a recent meeting of the Lockheed Martin Board of Directors. The photo shows board members and key executives clustered around the Michoud "Banner of Thanks," which is now in temporary residence at our headquarters building in Bethesda, and which we have decided to circulate to numerous locations throughout the Corporation.

As you can see, the expressions on our faces reflect both pride and appreciation – pride at the extraordinary contributions Michoud employees have made to NASA during and after Hurricane Katrina, and appreciation for their thoughtfulness in putting together this banner and sharing it with the rest of the Corporation.

All of us in the Lockheed Martin family are very grateful to see the substantial and continuing progress that is being made in returning a sense of normalcy to the lives of Michoud employees. No doubt the scars of Katrina will linger for some time to come, but we are delighted that the vibrant enthusiasm that has so long been associated with the New Orleans area is returning to day-to-day life.

Please convey to everyone in the Michoud facility - and their families as well - my own personal thanks for their courage, professionalism, and persistence during a time of extreme duress. On behalf of all Lockheed Martin employees, we wish you every good fortune and happiness as you continue the process of renewal and restoration.

Sincerely,

Robert J. Stevens

Michoud capabilities spotlighted in economic summit

The 40 miles that separate the Michoud Assembly Facility and Stennis Space Center seem less distant now. Because on October 12, Michoud hosted the Partners for Stennis Two-State Economic Summit that explored the future of Michoud and impact on the Stennis region.

“The spirit, perseverance and resiliency of a people is a key part of the exploration of any new frontier and has become a lesson to the rest of the agency.”

Thomas Cremins, NASA HQ chief of staff for Exploration Systems

Partners for Stennis is a volunteer group from commerce, foundations, business, academia and government with one goal – the welfare of Stennis. Their objective is to promote economic, technical and academic growth, and stability through projects at Stennis so government decision makers and business interests realize the Center's value and importance.

In all, 83 Stennis partners came to take a closer look at their neighboring NASA facility, for many their first visit to Michoud. With the Space Shuttle program winding down and both sites recently winning Space Exploration work, it is only fitting that a synergy develop between the two.



NCAM Director Bruce Brailsford explains the role of the National Center for Advanced Manufacturing to participants during the Economic Summit.

Patrick Scheuermann, NASA's chief operating officer at Michoud, assured the group that the important work facing Michoud is both complementary to Stennis' efforts and a great opportunity for the region.

Don Pierson, director of business development for the Louisiana Department of Economic Development, established that despite Hurricane Katrina, the Louisiana economy is strong. Program wins such as Orion make it stronger. “Big business is the perfect ground to grow small business, which in the long term makes this a great place to live,” he explained.

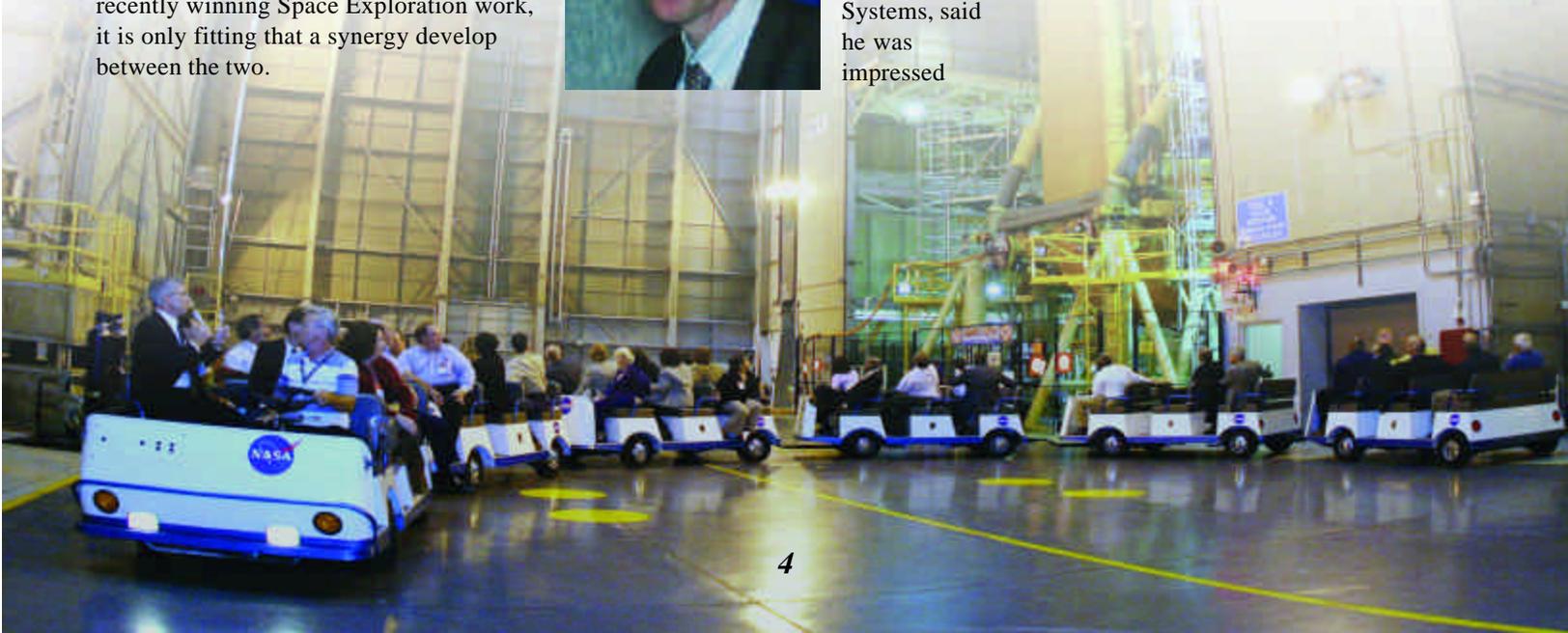


Keynote speaker **Thomas Cremins**, NASA HQ chief of staff for Exploration Systems, said he was impressed

after Katrina by employee resolve in the region. “The spirit, perseverance and resiliency of a people is a key part of the exploration of any new frontier and has become a lesson to the rest of the agency.”

Sheila Cloud, Marshall Space Flight Center's business integration executive, thanked Michoud for its devotion to the agency. In return, she stated, “NASA is committed to this region,” and added, “Michoud and its 200 acres of green grass can become the cornerstone of economic recovery in this area.”

Summit participants also visited Building 103, the Vertical Assembly Building, and the National Center for Advanced Manufacturing, where parts of *Orion* will be fabricated. Following a windshield tour of the entire facility, visitors left with the realization that the next human mission to the Moon really will begin in Louisiana. ■



MICHLOUD OPERATIONS'

United Way Campaign



Now through November 4

2006-2007 - Michoud Campaign Incentives

Ten (10) \$500 Cash Prizes (before taxes)

To be awarded at 2007 Kickoff

Qualification - 2006-07 Sustaining Michoud UW contributor, \$4/week minimum; VPs/Directors not eligible.

Three-night Cruise for Two departing N.O.

To be awarded at 2007 Kickoff

Qualification - 2006-07 Sustaining Michoud UW contributor. \$500 or more annual contribution.

Honda Civic

(Courtesy Royal Honda)

2006-2007 Supportive Level contributors in the Greater New Orleans Area

\$500 in Gasoline

2006-2007 Supportive Level Contributors in the Greater New Orleans Area

Carribbean Cruise for Two on the Carnival Fun Ship

(Courtesy Carnival Cruise Lines)

2006-2007 UW contributors of \$1,000 or more in the Greater New Orleans area

Two-Night Stay at "W" New Orleans

2006-2007 Supportive Level Contributors in the Greater New Orleans Area

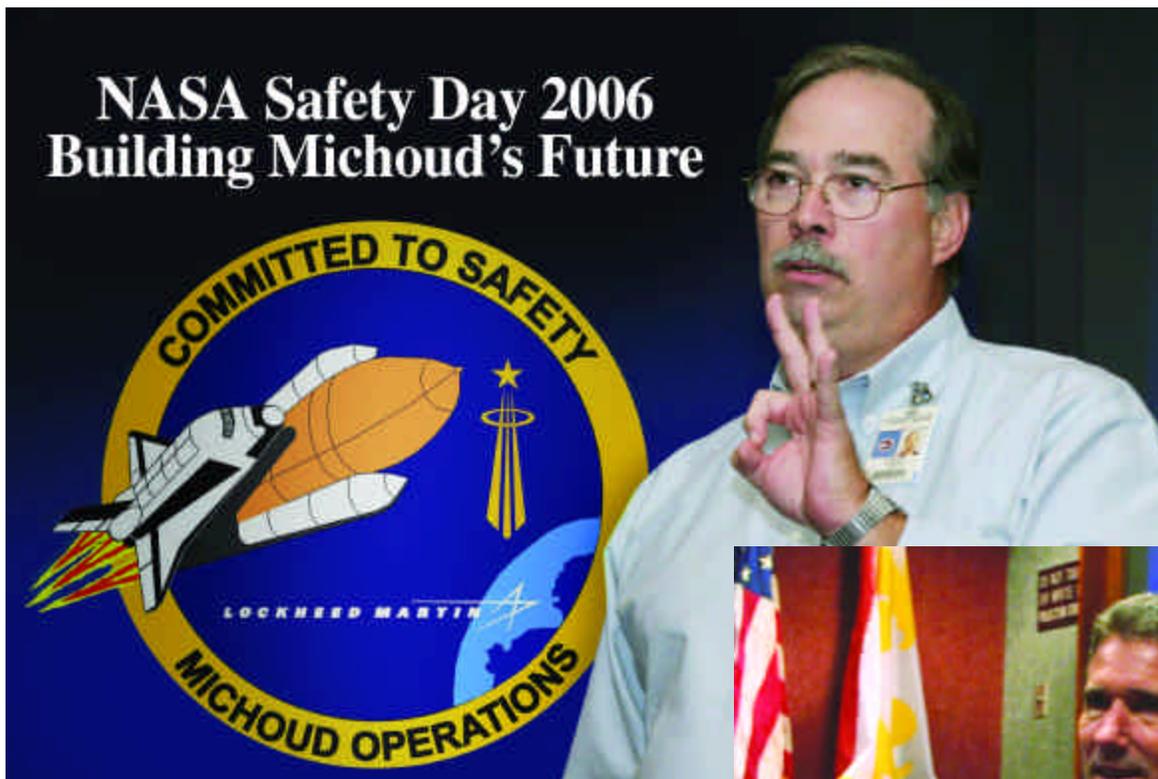


Join us at Family Day 2006 on November 4 for a raffle and silent auction benefiting United Way that will feature flat screen televisions, iPods, digital cameras and one-of-a-kind gifts and event packages contributed by Michoud Operations executive management.

Just a few of the items available for your bid include:

- Homemade Italian Dinner for two with Dan Ferrari
- Holiday "special" wine basket
- Wild Game Dinner for two with Karen Weldon
- Dinner for two at Commander's Palace
- LSU Fan Pack
- Gift Certificate to Dickie Brennan's Steakhouse
- Gift Certificate to Bourbon House Restaurant
- Two Fried Turkeys delivered to your home on Thanksgiving Day
- Sail Boat Ride w/ Refreshments
- Print by Ron Picou entitled "Quarter Horse"
- Safari Crew membership for both Zoo & Aquarium
- Saints Collectibles
- Basket of Wines from Paris
- Autographed Football from Drew Brees, Deuce McAllister and Kevin Houser

STS-115 crew to speak at General Assembly at 10:30 a.m. Thursday, October 26



Safety Manager Steve Turner (above) gathered input from directors and managers on the results of NASA Safety Day employee meetings to identify the top three safety initiatives to focus on in 2006-2007.

"Safety to me is staying focused," astronaut Mike Good (right) told members of the NASA Safety Day Leadership forum this past week. "A lot of people at Michoud have been dealing with many personal and real issues. To come to work and be focused and to put out a good quality product is important."

Employee volunteers take on Katrina-damaged school



Last Saturday, Michoud Operations employees made a difference in the education of approximately 400 students at Lake Castle Elementary School in New Orleans East.

Joined by family members, a volunteer army of 13 emptied Katrina-flooded classrooms of desks and books in preparation for renovation.

Outside, volunteers transformed a wind-stricken building's slab into a play space while others repaired a covered breezeway that joined the classrooms.

With energy remaining, everyone helped to clear out an outdoor storage shed, its contents still waterlogged from the floodwaters.

Before leaving, the volunteers surveyed the work they had accomplished and left with a sense of pride knowing that their efforts played a significant role in restoring one of our neighborhood schools.

Milestones *Employees celebrating anniversaries with Lockheed Martin in November*

30 Years

W.B. Clifton
John McKinsey

Dennis DiFabrizio

Craig Jenkins
M. Heather Karl
Albert Labat

20 Years

Christianna Kooney

15 Years

Brenda Menefee
Gloria Rivers

10 Years

Mark Burke
Randall Kliebert
Carlos Saavedra
Kevin Schuengel

5 Years

Richard Hammers
Twanda Vaughn

25 Years

David Deal

James Quirin
Carlos Ramirez



Mission Success

Bulletin on-line

LOCKHEED MARTIN



Lockheed Martin Space Systems Company – Michoud Operations

Volume 25, No. 16 • October 24, 2006

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Mission Success Bulletin is published by the Communications Department.